The India Local Initiatives Program: A Model for Expanding Reproductive and Child Health Services

John M. Paxman, Abu Sayeed, Ann Buxbaum, Sallie Craig Huber, and Charles Stover

The India Local Initiatives Program adapted a model used in Indonesia and Bangladesh to implement the government's reproductive and child health strategy. From 1999 to 2003, three Indian nongovernmental organizations (NGOs) provided services for 784,000 people in four northern states. The program established health committees in 620 villages, recruited and trained 1,850 community health volunteers, and added 232 sites to extend government services. Using three strategies—demand creation, increased access to services, and local capacity building—the NGOs increased contraceptive-use rates by 78 percent, on average; child immunizations by 67 percent; and antenatal care by 78 percent among the populations served. Community resources—such as local health personnel, community-supplied clinic sites, and community drug funds—added 40 cents to every dollar provided by donors. This model proved to be a suitable platform upon which to build health-care service delivery and create behavioral change, and the NGOs quickly found ways to sustain and expand services. (STUDIES IN FAMILY PLANNING 2005; 36[3]: 203–220)

With more than one billion people, India is the world's second most populous nation. An estimated 18 million people are added to its population each year—nearly one-fifth of the world's total increase (Population Reference Bureau 2003). India was the first developing country to initiate a national family program (in 1951), emphasizing family planning to the extent necessary to reduce birth rates in order "to stabilize the population at a level consistent with the requirement of national economy" (GOI 2000:3). There have been successes along the way,[1] but controversies have arisen over targets, incentives, coercion, and compulsory sterilization (Panandiker and Umashankar 1994).

On the heels of the International Conference on Population and Development held in Cairo in 1994, the Government of India revamped its Family Welfare Programme to incorporate the principles established at the conference. The family planning program was transformed in 1997 into the Reproductive and Child Health (RCH) Strategy within the Family Welfare Programme in an effort to erase many of the weaknesses of prior initiatives by moving beyond family planning (GOI 1997). The government adopted an expanded package of services that was consistent with the recommendations of the International Conference on Population and Development, focusing on enhancing health-care-seeking behaviors, increasing access to care, and improving quality of care (Visaria and Chari 1998).[2] It eschews the target-driven orientation that previously had characterized the Indian approach to some aspects of health-care service delivery, notably the provision of contraception. The new strategy was reinforced in the National Population Policy (GOI 2000).

Immediate attention was paid to the ways in which this new approach could be integrated into the Indian public and private health systems (Measham and Heaver 1996; Pachauri and Subramanian 1999). The challenges were multiple, as were the opportunities (Mavalankar 1999).[3] The RCH strategy, taking its lead from the Cairo

At the time this study was written, John M. Paxman was Principal Program Associate, Management Sciences for Health, Cambridge, MA, and Adjunct Professor of International Health, Boston University School of Public Health. Abu Sayeed is Director, Technical Assistance Incorporated, Dhaka, Bangladesh. Ann Buxbaum and Charles Stover are Principal Program Associates, Management Sciences for Health. Sallie Craig Huber is Program Manager for Planning, Monitoring, and Evaluation, Management Sciences for Health, REACH Program, Kabul, Afghanistan. Correspondence should be directed to John M. Paxman, c/o Barbara Timmons, Deputy Director of Publications, Management Sciences for Health, 784 Memorial Drive, Cambridge, MA 02139–4613. E-mail: btimmons@msh.org.

conference, emphasized community participation, client-centered services, quality of care, and the involvement of additional sectors to speed implementation (GOI 1997 and 2000). This climate of change offered the opportunity to apply alternative approaches for the provision of RCH information, counseling, and services at the community level, even welcoming initiatives that worked with or paralleled the public-sector program. One question that arose in response to the new policies and program direction was whether a community-based approach, overseen by competent, experienced nongovernmental organizations (NGOs), could complement and extend the effectiveness of RCH services.

The present Family Welfare Programme represents a significant advance over past designs and policies, but delivering its mandated package of integrated RCH services to India's neediest citizens poses an immense challenge (Measham and Heaver 1996; Koenig and Khan 1999; Pachauri and Subramanian 1999). Although services are offered through a network of clinics and health posts run by the government and various NGOs, India's poor tend not to make use of these facilities, often because they are inaccessible, poor in quality, or culturally unacceptable (Koenig et al. 2000; Stephenson and Tsui 2002). A preference for services offered by the private sector, which many believe to be superior to those of the public sector, skews the rates of use. To reach out to India's vast population, the government employs auxiliary nurse-midwives to provide basic curative and preventive services. Each auxiliary nurse-midwife is responsible for a population of 5,000—a daunting responsibility.

The government recognizes the limitations of this approach, but it lacks the staff and resources to provide other forms of community-based care. Although NGOs have been involved in delivering services related to the RCH strategy, their effectiveness often falls short, particularly in the areas of community involvement and service use. By the late 1990s, planners wondered whether strong community-based models would improve RCH status and behaviors in India.

Given this context, it is critical that the effectiveness of RCH programs be evaluated, and evaluated properly, but which measures are appropriate for the task? The literature on community-based reproductive and child health initiatives lists a variety of performance indicators as measures of success (BASICS 1998; Rohde and Wyon 2002), with behavioral change and continuity of service delivery as overriding concerns (Levine and Bennet 1995). Just as important, however, is how programs are designed and organized to increase health-care coverage and service use. Most of the documented experiences have produced notable results in changing health-care-seeking behavior—the ultimate aim of these programs—through increased availability of information and enhanced access to good-quality services.[4] Many researchers devote attention to the issue of community support, including the role of community health volunteers or agents, with all its benefits and drawbacks, in creating change and increasing demand for and access to basic services (Askew and Khan 1990; UNFPA ca. 1996; MSH and TAI 1997). Some studies have demonstrated ways to encourage community involvement, including the mobilization of local resources, with a view to enhancing chances of sustainability (Family Planning SEATS II 2000a and 2000b; Paxman et al. 2002; Tain and Bendahmane 2002). Others have attempted to show improved access and efficiency based on cost of services, cost recovery, and other financial indicators (Cuellar et al. 2000). A few focus on improving management to better serve those in need (Rohde and Wyon 2002; World Bank 2003). Few studies, however, have tried to look at all these aspects in combination. This study examines all these elements of improvement in an NGO-managed RCH program in India, describing how the program was organized to produce positive results in each area.

The India Local Initiatives Program Model

Founded in 1999, the India Local Initiatives Program (India-LIP) is a reproductive and child health program managed by nongovernmental organizations. The program targets diverse populations, serving more than 780,000 people in the slums of Kolkata, the hills of the Himalayas, the plains of the Punjab, and the mountains of Himachal Pradesh. The program is designed to stimulate community involvement in health care using local committees and health volunteers to create partnerships with other agencies, including private and public health-care providers.

The India-LIP approach rests on three pillars: mobilizing community support; increasing demand for and access to essential reproductive and child health information and services; and establishing sound technical and management approaches to support these services. In its original form in Bangladesh, the LIP model was applied specifically to family planning. It employed four approaches in implementing its activities:

(1) Government RCH program staff, local leaders, and administrators of government health and development programs worked as partners with a local community team.

(2) Community members were actively involved in planning, implementation, and resource mobilization as they managed their family planning, maternal and child health, and reproductive health program and served on

local management committees that oversaw service delivery in villages and urban slums guided by a locally designed work plan.

(3) Local women participated directly in service-delivery activities by serving as community volunteers. They provided family planning, other health services (including resupply of pills and condoms), and information about services directly to families. They also worked with government clinics and others, and made referrals for clinical RCH services.

(4) The community helped finance service delivery by mobilizing cash and in-kind contributions from local resources.

In the India-LIP program, three adjustments were made to the model. First, intermediaries—the NGOs—were introduced to oversee implementation, work with communities, and provide technical assistance and other support. The management skills of the partner NGOs and the communities were strengthened via formal management training, systems, and technical assistance. This work included training in supervision, support in budgeting and financial management, development of simplified management information systems, needs assessments, the establishment of baselines, and the systematic measurement of behavioral change. Second, the package of services provided was expanded to encompass the service-delivery requirements of the India RCH program. Third, the question of sustainability was addressed at the outset.

The idea behind the India-LIP community-based approach is not unique; variations have been introduced in India with differing degrees of success. Of those that have succeeded, three stand out. The Foundation for Research in Health Systems, in partnership with state and district health officials, worked for seven years, before and after the institution of the present national RCH program, to improve health services in rural Maharashtra. This initiative demonstrated the feasibility of creating a more efficient system of health-care delivery, supported by a minimum of affordable inputs, to increase women's use of a gradually expanded range of services (Barua et al. 2003). In the slums of New Delhi, ASHA Community Health and Development Society, an NGO, pioneered the use of community networks to improve health, particularly maternal and child health, among some 150,000 slum dwellers (Lloyd 1998). In the third successful effort, the Family Planning Association of India used community participation approaches in Karnataka and three districts, including one in the slums of Bhopal, in Madhya Pradesh (Datta 1997; Marriott and Sanchez 1998).

What stands out in the India-LIP experience is the attention paid to the organization and management of the program. In this regard, it is similar to the Maharashtra experience (Barua et al. 2003). Furthermore, the NGOs involved in India-LIP established indicators at the outset and monitored and measured change in each focus area: behavioral change, community support and local mobilization of resources, access to services, cost of services, and management systems (MSH and TAI 2002). Using these focal areas, this study seeks to gauge how far and fast pilot initiatives, like India-LIP, can move toward improved health status, continuity of services, and program sustainability at the community level.

India-LIP grew out of a South-to-South transfer of community-development approaches from Indonesia to Bangladesh that began in the 1980s.[5] Decades later, the LIP community-oriented model continues to be effective in improving the quality of care of and access to some RCH services in Bangladesh (MSH and TAI 1997). Because the LIP model had been implemented on a large scale for family planning services in Bangladesh, three nongovernmental health-service agencies in India hoped to accomplish the same changes by offering the newly outlined RCH package of services to their populations, thereby accelerating improvements in health status. An intervention within the Government of India's emerging RCH strategy was a logical place for the NGOs to begin the experiment.[6]

Management Sciences for Health, an international NGO based in Cambridge, Massachusetts, chose to work with these three experienced NGOs in India's northern states, where the effectiveness of outreach and community services in the Family Welfare Programme was reportedly much lower than in other parts of India (Koenig et al. 2000). These partnerships with NGOs offered a chance to adapt the LIP to learn whether it could be applied to complement and extend the government's RCH services. It also provided an opportunity to learn whether the LIP approach could stimulate increased use of these important services in areas where women shun public health services (Stephenson and Tsui 2002) or where governmental services are lacking, particularly in the slums of Kolkata and the mountainous regions. It afforded the opportunity as well to see whether the LIP model could be applied to a wider set of RCH health interventions, beyond its reach in Bangladesh, where the program focused on family planning and operated within and supplemented the public-sector program. In India, unlike in Bangladesh, the implementation strategy featured the work of local NGOs, often in partnership with the public sector. This study assesses whether the LIP model is suitable for implementing a community-centered approach to reproductive and child health care in India.

An important feature of India-LIP is that program costs and the type, number, and use of services were analyzed together (Stover et al. 2002), which allowed the av-

erage cost, over time, of each type of service to be calculated. Moreover, a method was developed for assessing the value of the local resources that were contributed to the project and comparing it with external donor funding, in order to consider the question of sustainability (Stover et al. 2002).

The information and financial systems of the project were set up to track these costs and resources as well as an important set of health indicators. This study is based on four analyses conducted during the pilot phase of the program: an internal first-year project-progress assessment (TAI 2001), a midterm evaluation (Huber et al. 2001), an assessment of management information systems (Bhattarai 2002), and an analysis of costs and service use (Stover et al. 2002). This combination of analyses, with the outcomes they document, offers something new to the field and suggests that the design, implementation strategies, and assessments used in India-LIP likely can be adapted and applied to stimulate and measure the effectiveness of RCH health-service delivery not only in India but in other countries as well.

The Goals, Partners, and Settings of India-LIP

Working within the strategic framework of the government's RCH initiative, India-LIP assists communities in three regions of India to gain control of and improve their health status. From 1999 to 2003, Management Sciences for Health and Technical Assistance Incorporated, in Dhaka, Bangladesh, with support from the Bill & Melinda Gates Foundation, worked with three Indian NGOs to adapt the LIP model to address the reproductive and child health needs of their communities (MSH and TAI 2002). India-LIP adopted a life-cycle approach to RCH service delivery. This approach pinpoints critical health-care-intervention periods and events—childhood, adolescence, pregnancy, and delivery—and links behavioral change communication and services to these periods. The program also worked within the structure of India's *Panchayati Raj,* the third tier or local level of democracy and governance.

The Indian partners were the Center for Research in Rural and Industrial Development (CRRID), which works in two states (Punjab and Himachal Pradesh) in northwest India; the Himalayan Institute Hospital Trust (HIHT), in the new state of Uttaranchal in the foothills of the Himalayas; and the Child in Need Institute (CINI), which provides reproductive and child health services in the slums of Kolkata in West Bengal State. Each NGO brought different strengths to the project and each faced different challenges in implementing the LIP in its particular environment. Table 1 summarizes the characteristics of the populations that these NGOs serve.

The Child in Need Institute is a nationally recognized youth-service and research organization that provides rural and urban educational outreach and health services in West Bengal. It has worked for 28 years to improve the educational, health, and nutritional status of women and children who are disadvantaged by the pressures of poverty and who live on the fringes of society. Historically, CINI's health interventions have served the rural areas adjoining Kolkata. India-LIP made it possible for CINI to extend reproductive and child health services to people living in the slums of Kolkata. These slums, with an estimated 1.5 million inhabitants, are characterized by a high population density, profound poverty, squalid living conditions, and widespread illiteracy. In these communities, the incidence of preventable disease is high, so that even the most basic services can make a large difference (CINI 2002).

CINI-LIP offers three tiers of health services to more than 230,000 residents in 12 of Kolkata's poorest slums: community-based services at health posts and through community health volunteers; referral to private providers; and referral to hospitals. The CINI-LIP health volunteers live in the slums and represent as diverse a mix of ethnicities, religions, and castes as those they serve. Those from the lowest caste—the Harijans, or "Untouchables"—work side by side with volunteers from other castes, united by a shared commitment to improving the health of their neighbors.

The Center for Research in Rural and Industrial Development is a nationally recognized think tank and research organization operating in the border areas of the Punjab and the hilly regions of Himachal Pradesh. CRRID works with the Panchayati Raj institutions (elected village councils) in the fields of health, education, agriculture, and industry. The Sikh community, with which CRRID works in the Punjab, is both socially cohesive and culturally conservative.

The need for health interventions in the fertile plains of the Punjab is not obvious, but it is real. Punjab, known as the breadbasket of India, is one of the more prosperous states in the country, but limited financial resources, manpower, and infrastructure have rendered government health services insufficient to meet the needs of the population (CRRID 2002). CRRID also serves the mountainous state of Himachal Pradesh, where 90 percent of the population lives in scattered, hard-to-reach villages, with extremely limited access to health-care facilities and services. CRRID has worked in these two Indian states, and in hundreds of villages with varied needs, for more than 25 years. By building on its experience and existing resources and by engaging commu-

Table 1 Population of Local Initiatives Program areas by nongovernmental organization serving the area, India

NGO	Locale	Population	Males	Females	Married women of reproductive age	Children younger than five
CINI	Slums of Kolkata	238,000	108,000	130,000	42,600	23,800
CRRID	Punjab and Himachal Pradesh	286,300	149,400	136,900	38,040	28,600
HIHT	Uttaranchal	260,100	136,000	124,100	44,220	18,000
Total population		784,400	393,400	391,000	124,860	70,400

CINI = Child in Need Institute. CRRID = Center for Research in Rural and Industrial Development. HIHT = Himalayan Institute Hospital Trust.
Sources: Project documents and survey estimates.

nity members and public institutions, CRRID has focused on improving access to health services for underserved and poor populations.

The Himalayan Institute Hospital Trust, a voluntary organization founded in 1989 to improve health services for the poor, provides basic health services to thousands of hard-to-reach individuals in Uttaranchal. HIHT's resources include a state-of-the-art teaching hospital and a medical and nursing college. Its mission is to develop integrated, cost-effective approaches to health care and development. It uses a multidisciplinary community-outreach program for the underserved in the plains and remote mountain areas of the state.

Scattered throughout the foothills of the Himalayas, villages in India's Garhwal region are greatly affected by the rugged topography and difficult climatic conditions. Those who live in the villages may be as far as 15 kilometers (9.3 miles) from the nearest paved road. Linked only by narrow trails, these villages are hard to reach even in good weather. Government health facilities are few and far between, and finding health-care providers who are willing to serve in these remote areas is difficult. Women, in particular, are frequently unable to take the time to attend to their own or their children's health needs (HIHT 2002).

Essential Elements in the Design and Implementation of India-LIP

One of the significant accomplishments of India-LIP is the extraordinary degree to which local RCH communities have become involved in furthering the project's objectives. The success of the LIP rests in large part on this unanticipated outpouring of community support—from the enthusiastic commitment of volunteers to the vigilant advocacy of committees to the financial contributions of communities at large.

India-LIP was implemented by more than 600 local RCH committees and about 1,850 community health volunteers, who provided a population of approximately 780,000 people with essential health services (see Table 2). In addition to contributing to the improved health of their community, the individuals involved, providers and clients alike, gained invaluable training, experience, skills, and confidence in making good decisions about health and health care.

All three NGOs succeeded in forming partnerships with communities to support the LIP. CINI's experience exemplifies this approach. CINI health posts, which were new to the slum areas, are located on the premises of local clubs. The story of how this came about is interesting (Huber et al. 2001). Initially, the CINI program supervisors and health workers had to persuade club members that making clubhouse space available to the program would not mean that they would lose their clubs. Club members were also skeptical about the idea of being involved in social services because, although they were accustomed to being involved in social and recreational activities, they rarely saw a role for themselves in health services and other aspects of community development. They accepted the idea when they realized that the facilities would be available to them in the late afternoons and evenings because the clinics would be open only during the day, when few people wanted to use the clubhouses. Moreover, the name of each club would be added to the signboard of the CINI health post, preserving the club's primary identity while recognizing it as an important contributor to the community. In this way, for the first time, the LIP was able to channel club members' energy into health-related activities. The club sites have now become health-service delivery points as well as centers for other community activities (MSH and TAI 2002).

Table 2 Number of community health volunteers and health committees, by coordinating nongovernmental organization (NGO), India

NGO	Community health volunteers	Health committees
CINI	750	34
CRRID	600	265
HIHT	500	321
Total	1,850	620

CINI = Child in Need Institute. CRRID = Center for Research in Rural and Industrial Development. HIHT = Himalayan Institute Hospital Trust.

CINI also worked to cultivate the support of ward councilors and other local political leaders, understanding that initiatives move significantly faster when supported by politicians. These leaders wield great power in the wards of the slums by providing patronage for employment and granting other forms of favor. CINI had to negotiate with them to get the terms it desired. The NGO saw the benefits and liabilities of this consultative approach as it sought to establish the LIP in the slums. For example, on one hand, local politicians were able to marshal sites for several of the clinics. They provided guidance concerning which slums to target. They also mobilized volunteers for CINI-LIP. On the other hand, they sometimes prevented the LIP from working in slum areas where they could see no political benefit for themselves (Huber et al. 2001).

One critical area of negotiation was the selection of the community health volunteers (CHVs), which called for diplomacy in the face of patronage. When local leaders wanted to place unqualified individuals in positions as volunteers, CINI staff found the program's detailed guidelines for volunteer selection useful and insisted that everyone adhere strictly to these criteria, as all parties had agreed to do. In this way, many of the candidates recommended by local leaders were eliminated from consideration because they did not meet the basic criteria for volunteers (such as age and residency) (Huber et al. 2001).

The Community Health Volunteers

A cadre of 1,850 community health volunteers—mostly female, many illiterate and formerly housebound—served as the front line of India-LIP. The emphasis was on "volunteering," against a history of pressure in other projects to turn volunteers into paid employees. After receiving training (initially two weeks with follow-up), the volunteers delivered basic health-care information and services, including some methods of contraception, to their neighbors. Each volunteer assumed responsibility for keeping track of the health status of approximately 50 households (about 250 to 400 individuals). The volunteers were the key to organizing grassroots services through household visits, promoting health fairs (*melas),* and attracting clients to the services offered at mobile and satellite clinics (run by government clinics as well as by LIP service teams). They also referred clients to additional services inside and outside their communities. The volunteers soon began to ask for additional training in first aid, counseling, and immunization to better serve their communities. No special effort was made to keep those seeking health care within the India-LIP system. The LIP's message to the volunteers was to direct people to wherever they could get the services they were seeking. For example, nearly 40 percent of those receiving contraceptive services in CINI's LIP area received them from nonproject sources, including government facilities.

The empowerment of the volunteers transcends the achievement of health-care objectives. These women clearly see the advantages of working for the program, although they are not paid, except for a small sum to cover some of their transportation costs (for meetings and training). Serving as a volunteer does not require a large commitment of time; volunteers perform LIP-related work, on average, for only about one hour a day. Through the LIP, many women have been able to work outside their homes for the first time in their lives, gaining unprecedented mobility, recognition, and status. In the words of a volunteer from the Punjab: "Before we became CHVs, we were not heard in the community. Now we have a voice" (MSH and TAI 2002:16). Another volunteer in the Kolkata slums remarked: "I am an illiterate person now providing RCH information and services to 50 families in my community. . . . I know all the people, and they ask health advice from me. Even illiterate people can do wonders" (MSH and TAI 2002:17). In India as in Bangladesh, where some LIP volunteers have contested and won seats in local elections, the opportunity to become a volunteer has empowered a great many women.

In contrast with the success of rural community health programs in using volunteers, urban programs have found recruiting, motivating, and retaining volunteers more challenging because of the greater fluidity in urban kinship and social structures (Rohde and Wyon 2002). The program in Kolkata was no exception. Facing initial suspicion, CINI drew on its good reputation in the slum communities (resulting from its extensive education programs for children and school dropouts and its linkages with local councilors) to introduce the LIP. The blessings of the ward councilors spurred nearly 1,000 people to apply to become community health volunteers. CINI selected about 750 of these applicants for training (Huber et al. 2001).

Reproductive and Child Health Committees

Village-based RCH committees are mandated in India's program strategy, and they are integral to the LIP management model. Because these committees offered not only local support for the initiative but also a vital connection with local government, the LIP made an intensive effort to bring existing local RCH committees into the program and to establish new ones where none existed. The profile, purpose, and impact of committees varied considerably among the three NGOs. The CINI committees were made up of influential community mem-

bers and volunteers; the HIHT committees consisted of local government representatives, members of youth and women's groups, and social workers; and the CRRID committees included local leaders, many of whom were women.

The committees have taken responsibility for a range of activities, including recruiting and training volunteers, raising money, and enlisting the invaluable support of local government, social, and religious leaders. They received training to increase their leadership and management skills and to learn the basics of reproductive and child health. In each setting, the committees became vibrant, empowered, mobilized entities that will likely have an impact on the health of their communities long into the future (Huber et al. 2001).

In the initial stages, the CRRID committees were by far the most active, according to the midterm evaluation (Huber et al. 2001). Building upon the cohesive Sikh community structure, the community RCH committees mobilized local resources to hold information-dissemination *melas* (large health fairs), establish regular satellite and mobile clinics, and, with the help of CRRID, procure medicines and staff their village clinics with roving government doctors and nurses. Government health-care personnel were motivated to go out into the communities, taking health care closer to village settings.

CRRID was particularly creative in its work with communities. Many clinics were held on the property of Sikh or Hindu temples or in local residences. CRRID adhered to the India-LIP guidelines for gender balance on committees. Most committees included a variety of local leaders—teachers, retired government officials, religious leaders, and elected Panchayat representatives—and community health volunteers. The committees actively supported the volunteers in their work, ensuring that they encountered no resistance.

By contrast, during the initial year or so, the committees of HIHT and CINI were less active, less cohesive, and less central to achieving project objectives. The LIP objectives were met largely through the efforts of the NGOs. In all cases, however, the committees perceived that they shared with the volunteers the responsibility for disseminating information about health and health-care services. At first, the HIHT-LIP committees tended to be passive, appeared unclear about their roles, and lacked links to local governmental structures. These initial difficulties arose because HIHT is a sophisticated hospital-based organization with its own ties to communities and a well-developed capacity to organize health-care services. HIHT remedied these deficiencies in the work of the committees. One of the positive results of this additional effort was that women constituted three-fourths of the committee membership (Huber et al. 2001).

In the highly politicized environment of the Kolkata slums, the establishment of the CINI-LIP committees was delayed because of local elections. Committees, health posts, and project activities evolved around locally established clubs that usually function as sites for informal neighborhood law-enforcement groups and male social gatherings. In the places where clubhouses served as health posts in the daytime, many clubs (and community health volunteers) contributed to minor renovations (even rebuilding a club in one site) to make the clubs appropriate for health-care service delivery. Committees in Kolkata tended to be composed of male political, business, and social leaders (such as teachers); the volunteers played a smaller committee role (Huber et al. 2001).

In 2001, committee members in Kolkata appeared unclear about their roles, apart from donating space and disseminating information. Over time, CINI coached them to become more active project participants (Huber et al. 2001). This experience highlighted the importance of community guidance provided by the NGO or other project manager. It also raised the question of whether, without a push from the outside, communities would take charge of their own health care. Symbiosis is an important feature of the way community programs succeed.

Arrangements for Health-care Service Delivery

India-LIP employed a variety of service-delivery techniques to fill the gaps in government services by bringing health and family planning information, antenatal and postnatal care, and immunization services closer to the doorsteps of the target population. Although the basic framework of the volunteer and village committee efforts was a constant in India-LIP, variations in geography, local culture, and service availability, as well as in the capacity of the partner NGOs and their links to local government, determined the niche that the program occupied in health-care service delivery in each location. The variation in the source and profile of the service-delivery-system components of each NGO is noteworthy. It reflects both the differences in local circumstances and the resourcefulness of each LIP partner. Table 3 shows the variety of arrangements made to deliver services to the population at each project site. Overall, the India-LIP partners added more than 230 service-delivery sites to the health-care system in India.

Finding adequate numbers of doctors and nurses to provide care was a challenge from the start that spawned innovation. In CRRID medical professionals came from the government, in HIHT medical professionals were employed by the NGO, and in CINI a referral network of private practitioners was established. HIHT also used medical interns and student nurses, who served in the

Table 3 Nongovernmental organizational arrangements for health-care facilities, personnel, and procurement of medicines, Local Initiatives Program, India

Arrangement	CINI	CRRID	HIHT
Number of service sites	113	34	85
Clinic facilities	Local community clubhouses in slum areas	Sikh and Hindu temples; private homes; mobile clinics	State auxiliary nurse-midwife centers; community spaces; rental sites; mobile clinics
Doctors	Private doctors—reduced referral fees paid by CINI	Government doctors—transportation and food paid by CRRID	Project-funded female doctors, medical students, and interns
Auxiliary nurse-midwives	Project-hired health-care providers	Used in some satellite and mobile clinics	In some clinics, provided services to patients referred by volunteers; in others, nursing students from HIHT were used
Basic medicines and vaccines	Procured from government, with some generic drugs purchased wholesale by CINI	Paid for and procured by local reproductive and child health committees; community maintains drug fund	Procured from NGO sources and from the government

CINI = Child in Need Institute. CRRID = Center for Research in Rural and Industrial Development. HIHT = Himalayan Institute Hospital Trust. NGO = Nongovernmental organization.

project while meeting their community-medicine training requirements, to staff mobile and satellite clinics in areas where no government health providers were available (HIHT 2002).

The relationship between the project and local government auxiliary nurse-midwives—the grassroots workers with the most logical technical connection to the LIP—also varied. In Uttaranchal, HIHT successfully negotiated to formalize the link between India-LIP and the auxiliary nurse-midwives, and the collaboration of these local nurse-midwives in conjunction with the LIP became part of the state's policy for health-service delivery. No such connection existed in the slums of Kolkata.

In the Kolkata slums, where a virtual vacuum exists with regard to government health and other services, CINI recognized the need for a referral system to address health problems that community health volunteers and CINI field-workers cannot treat. In addition to creating its own network of service-delivery points, CINI built a referral network of private providers who augment CINI's health-post services (CINI 2002). CINI made arrangements with some 30 qualified doctors practicing near the slum areas to accept referrals. CINI provided these doctors with training and made them aware of the goals of LIP, which they agreed to support. The doctors agreed to follow the drug regimens recommended in the standard protocols developed for the LIP. CINI paid the doctors at negotiated reduced rates for their services to LIP clients. As a result of this innovation, the second tier of Kolkata's three-tiered health-care system is now within reach of the slum population. CINI uses government hospitals outside the slums as referral centers for tertiary and institutional care.

CRRID committees organized the supply of drugs and services to satellite and mobile clinics, which are staffed by government providers who divide their time between their Ministry of Health (MOH) clinics and the CRRID service sites (CRRID 2002). This arrangement benefits the government providers, who must serve a monthly quota of patients in order to receive their salaries. Often the number of users of MOH facilities falls short of the required number of patients.

The periodic health fairs, or melas, organized by the NGOs, communities, and health posts have brought health education and services to many people. Some of these have attracted as many as 2,000 people. India-LIP also has used these fairs to highlight health issues of relevance to specific populations. For example, reproductive tract infections are prevalent among women in the Kolkata slums. The discharge associated with these infections is so common that women associate it with menstruation. Therefore, they tend not to consult a doctor when it occurs. Those who came to the fairs received diagnosis and treatment from qualified doctors and were counseled on prevention and follow-up. Another issue in the slums is immunization. Although awareness of and immunization against polio are high as a result of the efforts of the polio-prevention program, other vaccinations are neglected among the slum-dwellers. Special camps set up to address this problem have helped to ensure that slum children receive basic immunizations.

The India Local Initiatives Program introduced a modest user-fee system from the outset to test the communities' willingness to pay for services, but the system was not standardized across the three NGOs, and revenues from these fees fell far short of meeting service costs. The NGOs chose to aim for access for those least served rather than for financial sustainability. CINI, for example, which obtains most of its medicines and supplies free of charge from the West Bengal State Ministry of Family Welfare and purchases other generic drugs on the wholesale market, nevertheless charges everyone two rupees (a little less than US $0.05) for medicines. Initially, even this very low fee drew criticism from the community, but it was accepted eventually (Stover et al. 2002). Through October 2000 (the first full year of the program's opera-

tion), CINI collected about US $230 from these fees (Huber et al. 2001). Although such an amount is obviously too small to meet the cost of services or provide a basis for financial sustainability, it may foster adherence to treatment and prescribed use of medication because it reinforces the notion that the service is valuable.

Table 4 indicates the volume of RCH services generated by India-LIP. This volume was achieved by increasing access to services, behavioral change, communication, and community mobilization.

Management Systems

Strong management systems are essential to the success of health services. The management information system helps managers plan, monitor, and evaluate program performance. India-LIP established a simplified, village-based, integrated management information system that allows reproductive and child health status to be measured at the household level and produces other valuable information as well. It consists of a variety of information tools.

A pictorial RCH map (see Figure 1), developed by each community health volunteer to record the reproductive and health-care service status of each household, is the foundation of the LIP management information system.[7] Information from the RCH map is transferred to a register that is maintained and updated by project staff based on records from mobile, satellite, and fixed clinics. It includes referrals made by the community health volunteers. Because many of the volunteers were unable to submit written reports, a pictorial RCH register was introduced, adapted from the version used in the Bangladesh-LIP. This register allowed the volunteers to record information by using simple symbols for each of the 21 components of the RCH program. These are organized into family planning practice, antenatal care and postnatal care, child-survival initiatives, and immunizations.

The volunteers and other management personnel in the India-LIP initiative used these RCH maps to track information on the health status of each family. The volunteers created their own maps, based on the training they had received, and used them as a tool to plan visits, record clients' health status, motivate clients to adopt healthy practices and use health services, and provide follow-up. They took pride in their maps and in their mastery of the color-coding and symbols that are used.

The improved RCH mapping tool made sharing information and discussing pressing problems with volunteers relatively easy (Bhattarai 2002). Because volunteers maintained their own maps of the catchment area and households they served, the management information system encouraged participation. It allowed the volunteers and others to analyze their data and generate reports (some of which were presented verbally). Project staff were trained in trend analysis—using the data—and they transferred this skill to volunteers and committees. The RCH registers were consolidated by block (or by ward in the Kolkata setting) and then at the project level. Program staff, volunteers, and some committees used the registers to monitor performance, share information, discuss problems, and identify necessary modifications of program components (Bhattarai 2002).

The question of the accuracy of the data reported by a project always arises. With the introduction and establishment of the management information system for LIP, a concerted effort was made to ensure that the system functioned well and that it portrayed performance and change accurately. Aside from technical assistance and field practice, the main approach to assessing the capacity of the system was to conduct a two-week field review of the data and the systems that produced them (Bhattarai 2002). This review was not designed to be a full-scale assessment but was sufficiently detailed to verify that the data accurately reflected how well the project was functioning. Management Sciences for Health carried out this assessment midway through the third year of the initiative, in early 2002, in conjunction with a cost analysis. The review was conducted through meetings with the beneficiaries, through unstructured interviews with the staff involved in collecting and compiling data, and though an examination of recording and reporting instruments, such as RCH maps, registers, and monthly reports (Bhattarai 2002).

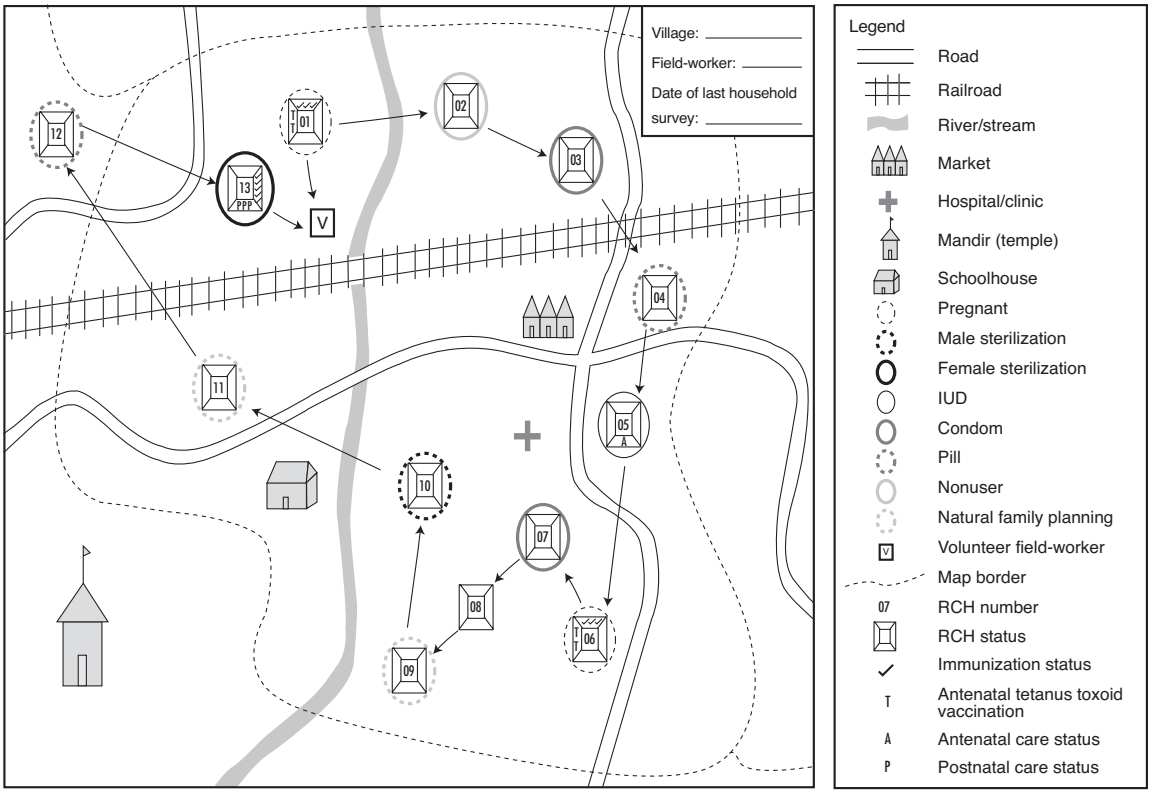
The three main findings of the assessment of the management information system confirmed the soundness of the information being produced. First, the volunteers,

Table 4 Numbers of reproductive and child health services provided and numbers of individuals who received services, Local Initiatives Program areas, by type of service, according to nongovernmental organization providing service, India, 1999–2003

Service	CINI	CRRID	HIHT	Total
Reproductive and child health services	217,300	179,400	193,000	589,700
Individuals received:				
Complete child immunization (percent coverage)	21,900 (88)	21,600 (84)	16,700 (79)	60,200
Antenatal care (percent coverage)	5,600 (88)	22,100 (92)	4,100 (79)	31,800
Postnatal care	4,700	2,800	9,600	17,100
Family planning (percent coverage)	28,000 (59)	27,000 (69)	29,700 (66)	84,700
Treatment for sexually transmitted diseases	3,400	3,800	6,000	13,200

CINI = Child in Need Institute. CRRID = Center for Research in Rural and Industrial Development. HIHT = Himalayan Institute Hospital Trust.
Note: Figures are rounded to the nearest hundred.
Source: MSH (2003).

Figure 1 Pictorial reproductive and child health map used to record information for households, Local Initiatives Program, India



who are crucial to the functioning of the system, in part because they created the RCH maps, were clear about the definitions of the data they were gathering. Ninety percent of the volunteers interviewed could identify correctly six of the seven essential elements of the map. Second, volunteers correctly recorded information on the health status of individuals and households on the RCH maps 96 percent of the time. Finally, no systematic under- or overreporting was found in the various registers.

The most interesting finding concerned the use of data. Information generated by the system was used by field supervisors and health-center staff for making planning and management decisions, noting trends, devising solutions to problems, and capturing a sense of the health status of individuals and communities. The report noted the "great knowledge and sense of use of this information" at all levels of the project (Bhattarai 2002:1).

In all the sites visited, field supervisors were found to be carefully plotting graphs and writing narratives to explain the trends and problems they encountered, and they used these tools to present the steps required to solve problems. In the health centers, graphs and tables were displayed prominently on the walls. The report concluded that this attitude toward information was the product of the training in using data for decision-making that Technical Assistance Incorporated had offered to the NGOs (Bhattarai 2002).

Results

The India-LIP initiative led to two important outcomes, one related to positive change in health-care-seeking behavior and health status, the other to costs and mobilization of local resources.

Behavioral Change

During the first three months of the project, in late 1999, each NGO undertook a survey to set the baselines against which health-care-seeking behavior could be measured. These baselines aimed to establish actual health practices vis-à-vis the services set out in the national RCH guidelines. In the participatory spirit of LIP, Technical Assistance Incorporated provided general parameters for content and methodology, but each NGO had the leeway to set up its own baseline survey. For this reason, the approach and the content of each of the surveys differed

slightly. Although these differences made strict comparison among the NGOs difficult, the advantage was that each NGO could measure its progress against its own baseline criteria, which each did throughout the life of the project. Two of the organizations, HIHT and CINI, used the World Health Organization's 30-household cluster-survey approach to create their baselines. The CRRID baseline was created using a larger survey with a sample of 7,400 men and women.

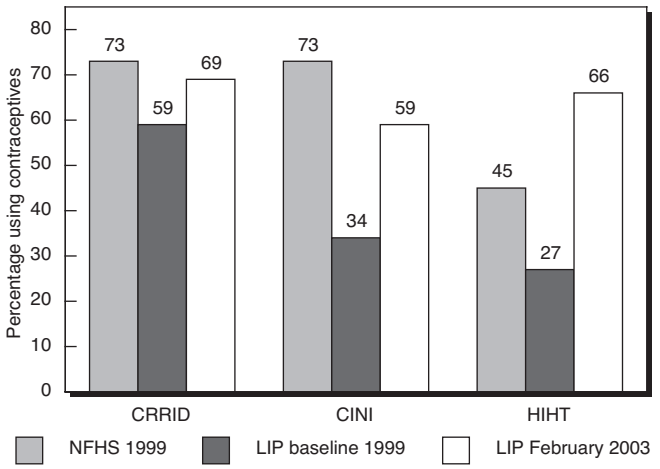
Except for child immunizations, the baselines for key indicators of RCH practices lagged behind state and national practices. In the CINI project area (the slums of Kolkata), the baseline contraceptive prevalence rate (CPR) of 34 percent was less than half of that of the state of West Bengal (73 percent) (see Figure 2) and also lower than the CPR for India as a whole (43 percent, not shown). The baseline CPR for the HIHT project sites in Uttaranchal (27 percent) was well below that of the state of Uttar Pradesh (45 percent). At CRRID, which operated both in Punjab and in Himachal Pradesh, the baseline CPR (59 percent) was lower than the figures for those states (75 percent and 71 percent, respectively).

In the slums of Kolkata, the baseline for fully immunized children younger than two (47 percent; see Figure 3) (CINI 2002) modestly exceeded the figure for the state of West Bengal (44 percent), which was comparable to the national figure (42 percent, not shown) (IIPS 2000). The immunization rate was considerably higher at HIHT in the hills of the Himalayas (52 percent) than in the state of Uttar Pradesh (21 percent) (HIHT 2002). In contrast, the rate for full immunization of children in the CRRID project (51 percent) was lower than those for the two states of Punjab and Himachal Pradesh (83 percent and 73 percent, respectively) (IIPS 2000). In terms of antenatal care (see Figure 4), all the project-area baselines were lower than those gleaned from the 1999 state-level National Family Health Survey II (IIPS 2000).

India-LIP appears to have created significant changes in behaviors related to reproductive and child health in the populations that it served in a relatively short time. Three indicators illustrate these positive changes: contraceptive prevalence, antenatal care, and full immunization. The figures for February 2003 are drawn from the India-LIP household information system, which was used to compile data from the RCH maps. Where the rates of the India-LIP baselines were lower than those found in the National Family Health Survey II, the final rates either surpassed the state-level figures for health practice or brought the practice rates closer to the statewide figures, as can be seen in Figures 2–4.

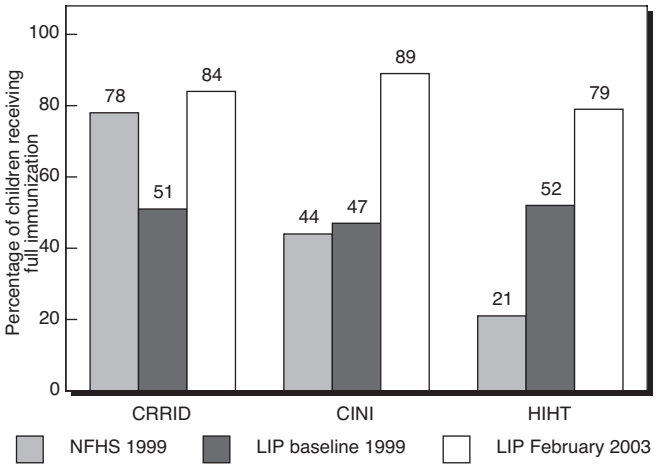
The increase in contraceptive use in the project areas is notable (see Figure 2). All three areas ended the project with CPRs near or above 60 percent, which represents a 78 percent increase in use on average. CRRID and CINI succeeded in bringing the use rates closer to those found in the statewide figures in the National Family Health Survey II, while HIHT exceeded those by more than 20 percentage points. HIHT and CINI achieved the

Figure 2 Contraceptive prevalence rates in Local Initiatives Program areas, India, 1999 and 2003



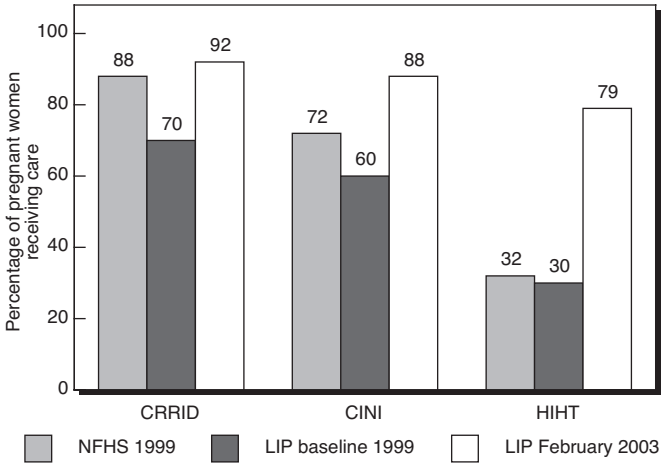
CRRID = Center for Research in Rural and Industrial Development. CINI = Child in Need Institute. HIHT = Himalayan Institute Hospital Trust.
Note: For comparison, the data from the National Family Health Survey II (NFHS 1999) in states where each NGO undertook India-LIP are presented: CRRID (Punjab and Himachal Pradesh), CINI (West Bengal), and HIHT (Uttar Pradesh).
Sources: IIPS (2000); CINI (2002); CRRID (2002); HIHT (2002); and MSH (2003).

Figure 3 Percentages of full child immunization in Local Initiatives Program areas, India, 1999 and 2003



CRRID = Center for Research in Rural and Industrial Development. CINI = Child in Need Institute. HIHT = Himalayan Institute Hospital Trust.
Note: For comparison, the data from the National Family Health Survey II (NFHS 1999) in states where each NGO undertook India-LIP are presented: CRRID (Punjab and Himachal Pradesh), CINI (West Bengal), and HIHT (Uttar Pradesh).
Sources: IIPS (2000); CINI (2002); CRRID (2002); HIHT (2002); and MSH (2003).

Figure 4 Percentages of women who received complete antenatal care services in Local Initiatives Program areas, India, 1999 and 2003



CRRID = Center for Research in Rural and Industrial Development. CINI = Child in Need Institute. HIHT = Himalayan Institute Hospital Trust.
Note: For comparison, the data from the National Family Health Survey II (NFHS 1999) in states where each NGO undertook India-LIP are presented: CRRID (Punjab and Himachal Pradesh), CINI (West Bengal), and HIHT (Uttar Pradesh).
Sources: IIPS (2000); CINI (2002); CRRID (2002); HIHT (2002); and MSH (2003).

greatest change, with CINI increasing its CPR by three-fourths and HIHT improving its rate by more than 140 percent over the baseline.

One closely watched benchmark was the method mix. This indicator is important for India, where female sterilization has figured so prominently. Table 5 shows the percentages of methods used in the HIHT project area in 1999 and 2002 and contrasts them with the findings of the National Family Health Survey II. According to the HIHT baseline, use of oral contraceptives and use of condoms in the method mix were already higher than those shown in the national figures, IUD use was substantially lower, and female and male sterilization were comparable. The baseline survey did not record use of traditional methods. Pill and condom use may be higher partly because many men in the Gharwal area either work away from home or are members of the military and are absent for long periods. By early 2002, as contraceptive use increased to 66 percent overall, the use of pills and condoms nearly doubled, whereas sterilization (both male and female) nearly tripled. Sterilization accounted for the majority of the increase in the contraceptive-use rates. Female sterilization made up 59 percent of the method mix, mirroring the proportion found at the national level for this method, where it constitutes more than two-thirds of the mix, and exceeding its proportion for the state, where it is 41 percent of the mix.

Table 5 Percentage distribution of contraceptive method use for HIHT population, by method, compared with use reported in the National Family Health Survey (NFHS) II, India

Method	NFHS II (1999)	Baseline (December 1999)	May 2002
Pill	2.3	4.0	7.3
Condom	2.6	7.0	13.0
IUD	12.6	0.5	3.5
Tubectomy	18.2	14.6	39.0
Vasectomy	1.3	1.0	3.1
Other methods	7.8	na	na
Total not using a method	55.2	72.9	34.1

na = Not available.
Note: Data from the National Family Health Survey II (IIPS 2000) are presented here for the state of Uttar Pradesh, of which Uttaranchal, the new state where HIHT works, is part.

All of the India-LIP partners were able to increase the proportion of women in their care who received full antenatal services (as shown in Figure 4). Full services include three antenatal visits and receipt of two tetanus-toxoid vaccinations and iron and folic acid tablets. HIHT stands out for providing services to women in the remote foothills of the Himalayas. At the beginning of the project, only 30 percent of these women were receiving antenatal care. This proportion had increased to 79 percent by the end of the project. Although CRRID and CINI began with higher baselines (70 percent and 60 percent, respectively), they too produced important changes in antenatal care, improving the proportion of women receiving this service by 31 percent and 47 percent, respectively. Both exceeded the figures charted in the National Family Health Survey II.

In each of the project areas, the baseline for full child immunization (BCG, DPT-1, 2, and 3, measles, and vitamin A) hovered near 50 percent (as shown in Figure 3). All the partner NGOs improved this indicator to at least 79 percent. All exceeded the National Family Health Survey II baseline by a considerable margin. The most notable change occurred in the slums of Kolkata, where CINI was able to increase child-immunization coverage by 89 percent over the LIP baseline level.

Costs and Service Use

Program costs and services provided are not often analyzed jointly. They are usually produced and analyzed separately, one being a function of financial reporting, the other a matter of service delivery. In early 2002, a team from Management Sciences for Health produced a combined analysis of these two elements (Stover et al. 2002). The purposes of this analysis were to assess the cost per service delivered by the three NGOs, look at possible strategies for replicating and expanding the program, establish a methodology for periodic analysis of each NGO's activities, and address the question of sus-

tainability. MSH also developed a way of estimating the value to the program of the contributions of local governments and communities.

The study linked cost data with service-delivery data to arrive at the cost per service. The methodology is based on the notion that LIP-related NGO costs are inputs and services rendered to clients are outputs, regardless of how the services are delivered. For example, some services are delivered by community health volunteers during their home visits; others are provided by the staff at mobile or satellite clinics organized by the project, by private or government doctors or other clinical personnel (by referral or directly), and at vaccination campaigns and health fairs. For the purposes of the study, all services were counted because they were generated in large part as a result of the project's activities in behavioral change communication and community mobilization, the activities of the volunteers, the referral systems put in place, or a combination of these. The services can be accounted for through the statistics recorded on the reproductive and child health maps and registers.

At the time of the assessment, covering the period from September 1999 to February 2002, the three NGOs had recorded 424,000 units of service, mostly in the area of reproductive and child health. For the cost analysis, the RCH-related package of services authorized by the government was consolidated into four service groups: child immunization, family planning, safe motherhood (antenatal and postnatal care), and limited curative care (other health services provided at satellite and mobile clinics, special camps, and health fairs).

On the cost side, resources from the Bill & Melinda Gates Foundation grant, the NGOs, the communities, and the government were taken into account. A cost per service was calculated for each NGO as a whole, rather than producing a more complex analysis for each health facility or service-delivery location or mechanism. This approach was chosen in order to minimize the time required to produce the analysis and to make sure that it yielded useful results for the NGOs and provided a methodology that they could apply easily. As service volume increased, the average cost per service naturally declined over time from 190 rupees (US $4.12) to 117 rupees ($2.54), with an average cost per service of 143 rupees ($3.11). In the last quarter of 2001, the average cost per service (throughout India-LIP) fell to 112 rupees ($2.44). This figure includes the costs of all LIP implementation expenditures: mobilization, training and support of volunteers, and service provision (Stover et al. 2002). To place this cost in the context of public health-care expenditures for India, between 1997 and 2000 the government spent $23 per capita on health care (World Bank 2003). The average cost per service, however, a figure comparable to what was calculated for India-LIP, is unknown, because the government uses "project costs" only and does not include labor, which is a major cost element (World Bank 2003).

Mobilization of Local Resources

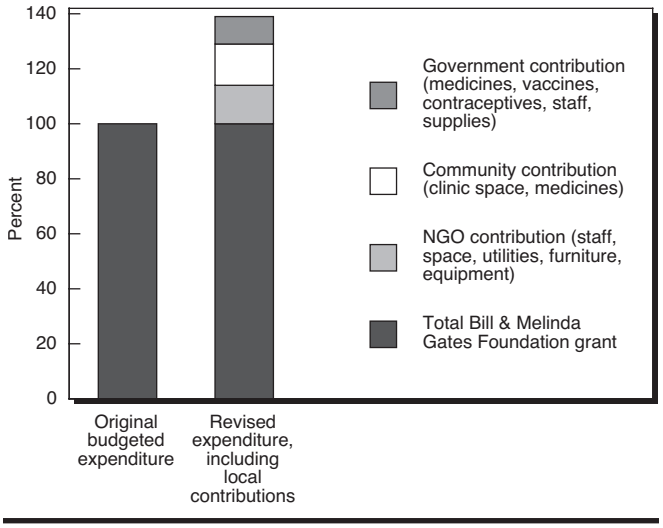
The assessment produced some other important and surprising results. The most significant of these was that the local resources that were contributed to the project (see Table 6) added more than 39 percent to the amount made available to each NGO through the Gates Foundation grant (see Figure 5). These resources—from the NGOs, the communities, and the government—were not anticipated in the project's design and, in addition to highlighting the creativity of the groups in leveraging

Table 6 Local contributions to Local Initiatives Program, by source, India

Source	CINI	CRRID	HIHT
NGO	Office space and utilities	Staff Furniture and equipment Office space and utilities	Staff Equipment Office space and utilities Training Referral services
Community	Health-post rentals and utilities	Clinic/health fair space Medicines	Clinics and health posts Health fair space Rental of mobile equipment
Government	Medicines, contraceptives, medical supplies	Medicines and contraceptives Staff time	Vaccines and contraceptives

CINI = Child in Need Institute. CRRID = Center for Research in Rural and Industrial Development. HIHT = Himalayan Institute Hospital Trust.

Figure 5 Expenditures as a gauge of local resource mobilization, Local Initiatives Program, by source, India



additional resources, represent a positive net increase in overall program resources. NGO, community, and government contributions were assigned an economic value. Overall, the value of these contributions equaled $369,788 (as of February 2002). This figure, for purposes of the analysis, was compared with $944,481 in support from the Gates Foundation grant. These additional resources made possible the provision of an estimated one-third more services than would have been provided otherwise and enabled the project to operate for nearly one year beyond its planned end.[8]

Conclusions

The India Local Initiatives Program set out to determine whether the model previously used for family planning services in two other countries could be successfully adapted and used to deliver the wider range of health services contemplated within India's RCH strategy. The key conclusion is that the LIP model can be adapted and used for health-care service delivery within the Indian system. The most important outcomes of India-LIP are the substantial changes in the health-care-seeking behaviors of clients, the expansion of access to services, and the mobilization of community support.

Although the prime objective of India-LIP was to test the adaptation of the LIP model, a question remained about the extent to which these service-delivery innovations would survive beyond the funding for the initial phase. From a financial perspective, the future of India-LIP depends in large part on finding new donors and on continuing to draw upon the resources offered by the state governments and upon the willingness of the NGOs and local communities to take on costs that were underwritten by the Gates Foundation grant (which contributed more than 70 percent of the project's resources).

India-LIP has shown that in a short time (four years) local resources can be marshaled to meet about 30 percent of the project's costs. This figure contains good and bad news. The good news is that it demonstrates the large quantity of resources that can be mobilized locally. The bad news is that what was raised represented only a small portion of the total cost of establishing the services, necessitating that funding be obtained from other sources. The options seem to be to introduce a cost-recovery mechanism (with the pitfall of making services too costly for those most in need), to tap into local or state resources, and to attract resources from international and local donors. A combination of these options appears to be the best solution.

From the beginning of the LIP, it was clear that the NGOs would need to advocate for ongoing support once the project ended. To this end, Management Sciences for Health facilitated workshops in which the NGOs practiced telling their stories. Technical Assistance Incorporated helped each NGO develop an illustrated pamphlet describing its activities and results. The NGOs continue to use these publications to introduce the LIP to potential supporters.

About one year after the end of the project, all three NGOs had found new funding and were continuing or, as in the case of HIHT and CRRID, even expanding activities. HIHT continues its LIP activities in the four districts it served originally, using its own funding and relying on a steady supply of health-care providers (staff doctors, as well as doctors and nurses in training at its own medical and nursing schools). This supply exceeds what the government is capable of providing to the population in the project areas. These providers collaborate with the field-workers and community health volunteers to deliver RCH services. According to follow-up information gathered from the NGOs in late 2004, the majority of the activities in the initial LIP design are still being carried forward. The continuation of activities within HIHT is, perhaps, the least surprising for two reasons. First, the founder of HIHT envisioned that outreach services would be provided to the population in the foothills around Dehradun. Second, the LIP provides a "real-world" model of community-based health care for the Trust's medical and nursing students. Recently, the state government of Uttaranchal gave financial assistance to HIHT to expand LIP services in two districts. HIHT is now working with two local NGOs to expand activities. In October 2004, HIHT provided training to the staff of these organizations. HIHT has also received a grant from the Population Foundation of India to extend LIP activities further into the Garhwal region.

In Himachal Pradesh, an area served by CRRID, the number of health posts has been increased with support from the European Community, and HIV/AIDS treatment and care is emphasized. Services are provided by field-workers in collaboration with government doctors and nurses. Recently, CRRID received a grant from the Population Foundation of India to expand LIP activities in other parts of Himachal Pradesh.

CINI continues its LIP activities in selected slums of Kolkata. About 70 percent of the health posts continue their work in spaces provided by the community. Some of this continuation of services is funded by a one-year grant from the US Agency for International Development that emphasizes child health care. All three of the NGOs serving as India-LIP partners—CINI, CRRID, and HIHT—have thus succeeded in bringing other donors into the picture. They have also each linked with the government for supplies of contraceptives and vaccines. Al-

though some early instances of government stockouts occurred (Huber et al. 2001), generally the flow of contraceptives and vaccines to the NGOs can be expected to continue as India-LIP partners assist the government in providing these services.

In the Punjab, where CRRID created a pool of private individual and institutional donors to help stock mobile and satellite clinics and community medicine chests at health facilities, an additional model for acquiring medicines is in place. Much of the future of services there will depend on these arrangements and on the resiliency of communities. The use of government doctors likely will continue if CRRID or the communities are willing to bear the cost of their transportation to the villages. The present arrangement has the advantage of following a model of community self-reliance that is encouraged by government and donors alike.

The community health volunteers and village committees of India-LIP are an empowered cadre of workers, largely because they have the support systems that are built into the LIP model. They continue, in large measure, to function at some level in all three sites. The NGOs provide ongoing supervision, training, quality control, and direction. These relationships continue to maximize the committees' performance and impact. Without the NGOs, in circumstances such as these, communities are rarely able to continue to provide services at the level of a program's pilot phase, but service provision can continue, especially if a more direct partnership with the government is forged. For example, the RCH committees within CRRID have already been made part of the local government structure within the Panchayti Raj in the Punjab.

In the India-LIP midterm review, the community health volunteers and committees were asked whether they would continue to work beyond the life of the project. Their affirmative response was unanimous. Although a slowing down and some attrition were to be expected when the initial external project support was withdrawn, experience from other countries indicates that some volunteers and committees, once empowered with information and status, will continue to function. With continuing NGO support, nearly all of the volunteers trained in Himachal Pradesh are still active. The majority of those trained by HIHT continue their work. A delegation from Afghanistan visited them recently to look at how the LIP functions in India, with a view to adapting and applying the model in Afghanistan as the country works to revitalize its primary-health-care system. In the slums of Kolkata, with their transient population, greater attrition has occurred, as expected: 20 percent to 30 percent of volunteers have dropped out, but the majority, including the adolescent peer leaders who were effective in the initial years, continue to work.

The management information system adapted from Bangladesh is one of the centerpieces of India-LIP. Many other community health projects lack both the rigor and user-friendly elements of the LIP management information system. The community RCH mapping technique has proved to be a powerful tool, especially for nonliterate volunteers, for providing a snapshot of the health status of households within a community. It also makes possible, along with the baselines, the tracking of behavioral change and the promotion of the use of information for management decisionmaking.

The adaptation of the mapping tool to accommodate the additional elements of RCH service delivery has shown that the technique can be used to capture many types of health program information within the community. One year after the India-LIP funding ended, however, the use of the RCH maps and registers and the management information system was uneven. At HIHT and CRRID, the statistics that chart the effect and extent of the fieldwork still rely on the LIP management information system as it was established. At CINI, only limited aspects of the mapping and registers, as determined by project needs, are being used.

Although the government of India does not appear to demand standardized reporting from NGOs at this time, the India-LIP management information system has, nonetheless, come to the attention of officials in all three of the NGOs' regions. One elected official (a ward councilor) in Kolkata expressed admiration for the careful "scientific approach" used by CINI in its management information system for the LIP (Bhattarai 2002). This comment suggests that the usefulness of the system to community health programs is being recognized. Whether the system is taken up elsewhere will depend on the political will of leaders and health program managers.

Some evidence indicates that selected elements of the LIP model are being adopted on a limited scale elsewhere in India and in other countries. The Bharuka Public Welfare Trust, which works on HIV/AIDS issues, has used the LIP design in its program in Jharkand State. UNICEF has adapted RCH mapping for its Pulse Polio Immunization Programme in West Bengal. In Afghanistan, where the primary-health-care system is being reestablished almost from the ground up, the government has embraced the LIP model and will adapt it for use in its community health program. In Uganda, the mapping tool has been used as a training exercise for community health workers associated with Save the Children, CARE, Plan International, Adventist Development and Relief Agency International, and PATH. The Centre for African Family Studies has adapted the mapping tool for use in Africa and will frame a training course for community health workers around it.

In sum, the India-LIP experiment has produced some innovative solutions to the more challenging aspects of community-based delivery of reproductive and child health services. These solutions merit further scrutiny and application, even a chance to be scaled up within the states where the experiment has been conducted. India-LIP provides a platform on which a variety of community health initiatives, including HIV/AIDS prevention, treatment, and care, could be built and sustained. The lingering question is whether the government, either national or state, will embrace the approach and apply it more widely to improve the performance of the RCH program, with or without the assistance of NGOs that clearly are important to the level of achievement of India-LIP. One approach could be to use NGOs for the start-up phase, then gradually reduce reliance on them or contract with them for specialized technical support. The Indian NGOs involved in the LIP have succeeded to the extent that they have because they have learned to apply appropriate strategies and solid management approaches. They have excelled especially at resource mobilization, which has included finding new donors, gaining substantial community involvement, and building productive partnerships with government agencies.

Notes

1 During the past decades, the Indian health and family planning program has grown significantly to encompass more than 150,000 primary health centers and subcenters employing more than 300,000 personnel. Knowledge of family planning is nearly universal, and contraceptive use reached 48 percent by 2003. The annual population growth rate was about 2.5 percent in the 1970s; today it hovers around 1.7 percent. In the interim, the country's population has tripled, although the total fertility rate has fallen from 6.4 in the 1970s to 3.1 children per woman of reproductive age (Population Reference Bureau 2003).

2 The strategy features community participation in planning and prioritizing services, a client-centered approach to providing services, upgraded facilities and improved training, good-quality care, gender sensitivity, and the involvement of a variety of sectors to implement and monitor services (GOI 2000). The service package includes family planning, safe motherhood, child survival, nutritional education, information about the prevention of sexually transmitted diseases and reproductive tract infections, services for adolescents, information and counseling, and effective referral.

3 An estimated 430 million of India's people live below the poverty line (World Bank 2003). They suffer from malnutrition and disease and struggle with illiteracy and inadequate housing. With limited access to both preventive and curative care, the poor appear to have little ability to improve their own health and the health of their families. The main issue is one of scale. One-fifth of all maternal deaths in the world occur in India (Bhat 2002). The maternal mortality rate (1996) is 440 deaths per 100,000 live births (World Bank 2003). More than one and a half million children die each year from diseases that could be prevented by vaccinations, adequate nutrition, and safe drinking water (World Bank 2003). The infant mortality rate is 66 deaths per 1,000 live births (Population Reference Bureau 2003). The child mortality rate is 93 deaths per 1,000 live births, decreased from 123 deaths in the past decade (World Bank 2003). Only half of all children are fully immunized (World Bank 2003). Some observers have been anticipating that HIV/AIDS will do to India what it has done to sub-Saharan Africa. There are presently more than 2 million people living with HIV in India; estimates range from 2.2 to 7.6 million (UNAIDS 2004). The health program is constrained by poor availability of services, the lack of competent providers, and poor service-use rates resulting from clients' lack of information and their preference for seeking services from the burgeoning class of private practitioners (Visaria et al. 1999; Koenig et al. 2000).

4 One of the most frequently written-about examples is the Matlab experience in Bangladesh, which became a gold mine for social science research and added greatly to the understanding of the interaction of programs within communities and resulting behavioral change (Phillips et al. 1988).

5 In the late 1970s and early 1980s, community work with family planning undertaken by BKKBN in Indonesia became the focus of attention from other countries, particularly from Islamic countries like Bangladesh that were laying the foundations for their own family planning programs (Hull et al. 1977). The interest from abroad centered on the work with local Islamic leaders and on efforts to stimulate community support for the relatively new idea of family planning (Warwick 1988). Of paramount interest was the way BKKBN produced changes in attitudes and behavior. Leaders from the local health sector in Bangladesh visited Indonesia in the early 1980s to see how local programs were managed (MSH and TAI 1997). For several years, they received training on the Indonesian model in Indonesia. They were expected to introduce into Bangladesh the innovations they had learned about in Indonesia but had difficulty doing so, principally because there was little local support for these changes. Later, religious leaders and local government officials were included in the training, and they eventually established their own training and programs in Bangladesh. The key to success was to create a critical mass of people in one area to support each other in creating change in their health and family planning programs. By the time the ideas used in Indonesia had reached and been adapted to Bangladesh, the work was being conducted under the rubric of the Local Initiatives Program (MSH and TAI 1997). In addition to creating partnerships among program staff, local leaders, and development-program administrators, LIP involved community members (both as volunteers and on management committees). The community helped finance the implementation of plans for improvement. LIP in Bangladesh endured for a decade, supported by the central government and the US Agency for International Development. It provided the opportunity for local communities to organize and manage their basic health-care programs, with an emphasis on family planning. At its height, LIP covered 25 percent of the country, established a network of 26,000 community health volunteers, provided services to 2.4 million couples and their children, and produced substantial change in family planning behavior. The contraceptive prevalence rate increased to 65 percent among the population covered (MSH and TAI 1997). By the late 1990s, the LIP model essentially had become the programming policy of the government. The majority of the volunteers were taken into the government program, ensuring that the key elements of the LIP survived.

6 The India-LIP service package is consistent with current national and international standards and has been appropriately adapted by all three NGOs. India-LIP's application of government standards—for reproductive and child health as well as for essential drugs and immunization—has demonstrated that NGOs can adhere to government policy and thus complement and extend health-care services. This achievement has been important for building the credibility of the NGOs in India. For more information about India-LIP, see MSH and TAI 2002 and the India-LIP website: www.india-lip.org (MSH 1999).

7 These RCH maps were modeled after ELCO (ELigible COuple) maps, which were pioneered in Indonesia and used in the LIP in Bangladesh, and in Kenya by the staff of Technical Assistance Incorporated as a technique for family planning service delivery. The mapping system used by India-LIP incorporated additional indicators of reproductive and child health, such as antenatal and postnatal care and immunization. In 2000, Technical Assistance Incorporated developed a manual on preparing community RCH maps, incorporating the essential RCH components. The manual enabled field-workers to record the status of family planning, antenatal care and postnatal care, and child immunization for individual households. The accompanying trainer's guide enabled field staff to train community health volunteers in the preparation and use of the RCH map. Several case scenarios and exercises, including ones that emphasized how to display, interpret, and use the data, also were developed as training tools.

8 Although this type of mobilization of community resources was not a specific requirement of the Bill & Melinda Gates Foundation grant, it was implicit. This grant was awarded to test promising ideas and approaches, and the foundation made clear that there would be no renewals of this type of grant. The NGOs understood that if they wanted their programs to continue, they would have to marshal additional resources once the grant funding ceased.

References

Askew, Ian and A.R. Khan. 1990. "Community participation in national family planning programs: Some organizational issues." *Studies in Family Planning* 21(3): 127–142.

Barua, Alka, Ramesh Waghmare, and Sumathi Venkiteswaran. 2003. "Implementing reproductive and child health services in rural Maharashtra, India: A pragmatic approach." *Reproductive Health Matters* 11(2): 140–149.

BASICS. 1998. *Community-based Approaches to Child Health: BASICS Experience to Date*. Arlington, VA: Management Sciences for Health.

Bhat, P.N. Mari. 2002. "Maternal mortality in India: An update." *Studies in Family Planning* 33(3): 227–236.

Bhattarai, Hare Ram. 2002. *Review of the Data System of India-LIP in the Context of the Cost of Service Analysis.* Report prepared for Management Sciences for Health. Unpublished.

Center for Research in Rural and Industrial Development (CRRID). 2002. *Communities Taking Charge of Their Health—The India Local Initiative Program*. Chandigarh, India: CRRID.

Child in Need Institute (CINI). 2002. *Communities Taking Charge of Their Health—Local Initiative Program*. Kolkata, West Bengal: CINI.

Cuellar, Carlos J., William Newbrander, and Gail Price. 2000. *Extending Access to Health Care Through Public-Private Partnerships.* Boston: Management Sciences for Health.

Datta, B. 1997. "Choice and a better life in the dusty heart of India." *Planned Parenthood Challenges* 1(2): 22–25.

Family Planning Service Expansion and Technical Support (SEATS II). 2000a. *Enhancing Sustainability in Reproductive Health Services: Lessons from the SEATS Project.* Arlington, VA: John Snow.

———. 2000b. *Guide to Leveraging Resources: How to Mobilize and Diversify Resources for Reproductive Health.* Arlington, VA: John Snow.

Government of India (GOI). 1997. *Reproductive and Child Health Programme*. New Delhi: GOI Ministry of Health and Family Welfare.

———. 2000. *National Population Policy*. New Delhi: GOI Ministry of Health and Family Welfare.

Himalayan Institute Hospital Trust (HIHT). 2002. *Communities Taking Charge of Their Health—The India Local Initiative Program*. Dehradun, India: HIHT.

Huber, Sallie Craig, Abu Sayeed, S.K. Zaman, and Laurie Zivetz. 2001. *Mid-Term Review of the India Local Initiatives Program (India-LIP).* Evaluation prepared for Management Sciences for Health. Unpublished.

Hull, Terence H., Valerie H. Hull, and Masri Singarimbun. 1977. "Indonesia's family planning program: Success and failure." *Population Bulletin* 32(6): 1–52.

International Institute for Population Sciences (IIPS). 2000. *National Family Health Survey II, India 1999.* Bombay: IIPS.

Koenig, Michael A. and M.E. Khan (eds.). 1999. *Improving Quality of Care in India's Family Welfare Programme: The Challenge Ahead.* New York: Population Council.

Koenig, Michael A., Gillian H.C. Foo, and Ketan Joshi. 2000. "Quality of care within the Indian Family Welfare Programme: A review of recent evidence." *Studies in Family Planning* 31(1): 1–18.

Levine, Ruth E. and John Bennet. 1995. "Sustainability of Family Planning Programs and Organizations: Meeting Tomorrow's Challenges." *Policy Paper Series* No. 6. Washington, DC: The World Bank and The Futures Group.

Lloyd, Marion. 1998. "Urban poverty: Delivering babies in the slum." *Health for the Millions* 24(6): 5–7.

Management Sciences for Health (MSH). 1999. "India Local Initiatives Program: Communities managing their own health care." <http://www.india-lip.org>. Accessed 26 July 2005.

Management Sciences for Health (MSH) and Technical Assistance Incorporated (TAI). 1997. *Local Initiatives Program: Final Report 1987–1997.* Boston: Management Sciences for Health.

———. 2002. *Communities Taking Charge of Their Health.* Boston: Management Sciences for Health.

———. 2003. "The India Local Initiatives Program (India-LIP) 1999–2003: Final report." Report prepared for the Bill & Melinda Gates Foundation. Unpublished.

Marriott, A. and J. Sanchez. 1998. "The integration of family-planning and development activities in India." *Geography* 83(360): 237–245.

Mavalankar, Dileep V. 1999. "Promoting safe motherhood: Issues and challenges." In *Implementing a Reproductive Health Agenda in India: The Beginning.* Eds. Saroj Pachauri and S. Subramanian. New Delhi: Population Council. Pp. 531–549.

Measham, Anthony R. and Richard A. Heaver (eds.). 1996. *India's Family Welfare Program: Moving to a Reproductive and Child Health Approach.* Washington, DC: The World Bank.

Pachauri, Saroj and S. Subramanian (eds.). 1999. *Implementing a Reproductive Health Agenda in India: The Beginning.* New Delhi: Population Council.

Panandiker, V.A. Pai and P.K. Umashankar. 1994. "Fertility control and politics in India." In *The New Politics of Population: Conflict and Consensus in Family Planning.* Eds. Jason L. Finkle and C. Alison McIntosh. *Population and Development Review* 20 (supplement): 89–104.

Paxman, John M., Ann Buxbaum, Rebecca Marshall, and Abu Sayeed. 2002. "Mobilizing local resources to support health programs." *The Manager* 11(2): 1–22.

Phillips, James F., Ruth Simmons, Michael A. Koenig, and J. Chakraborty. 1988. "Determinants of reproductive change in a traditional society: Evidence from Matlab, Bangladesh." *Studies in Family Planning* 19(6): 313–334.

Population Reference Bureau. 2003. *World Population Data Sheet 2003.* Washington, DC: Population Reference Bureau.

Rohde, Jon E. and John B. Wyon (eds.). 2002. *Community-based Health Care: Lessons from Bangladesh to Boston.* Boston: Management Sciences for Health and Harvard School of Public Health.

Stephenson, Rob and Amy Ong Tsui. 2002. "Contextual influences on reproductive health service use in Uttar Pradesh, India." *Studies in Family Planning* 33(4): 309–320.

Stover, Charles, Hare Ram Bhattarai, Elizabeth Lewis, Maggie Partilla, Abu Sayeed, and S.K. Zaman. 2002. "Cost and service utilization analysis of the India Local Initiatives Program (India-LIP)." Report prepared for Management Sciences for Health. Unpublished.

Tain, Frances and Diane B. Bendahmane. 2002. *Public-private Partnerships: Mobilizing Resources to Achieve Public Health Goals*. BASICS Project. Arlington, VA: Management Sciences for Health.

Technical Assistance Incorporated (TAI). 2001. *Internal Project Progress Assessment of India-LIP—Year 1*. Evaluation by CINI, CRRID, and HIHT. Dhaka: TAI.

UNAIDS (The Joint United Nations Programme on HIV/AIDS). 2004. *2004 Report on the Global AIDS Epidemic.* Geneva: UNAIDS.

United Nations Population Fund (UNFPA). ca. 1996. "Community participation in designing and monitoring reproductive health programmes." Reproductive Health Branch, Technical and Evaluation Division; based on a document by Laura Laski. New York: UNFPA.

Visaria, Leela, Shireen J. Jejeebhoy, and Thomas W. Merrick. 1999. "From family planning to reproductive health: Challenges facing India." *International Family Planning Perspectives* 25 (supplement): 544–549.

Visaria, Pravin and Vijaylaxmi Chari. 1998. "India's population policy and family planning program: Yesterday, today, and tomorrow." In *Do Population Policies Matter? Fertility and Politics in Egypt, India, Kenya, and Mexico.* Ed. Anrudh Jain. New York: Population Council. Pp. 53–112.

Warwick, Donald P. 1988. "Culture and the management of family planning programs." *Studies in Family Planning* 19(1): 1–18.

World Bank. 2003. *World Development Report*: *Making Services Work for Poor People.* Washington, DC and London: World Bank and Oxford University Press.

Acknowledgments

A grant from the Bill & Melinda Gates Foundation supported the pilot phase of the adaptation of the Local Initiatives Program from Bangladesh into three diverse settings in India. We would like to acknowledge our Indian counterparts: Rakesh Agrawal and Atanu Majumder, Project Manager, at CINI; Renu Dhasmana, Surekha Kishore, and B. Maithili, Project Manager, at HIHT; and Rashpal Malhotra, Director, and M.J. Bharij at CRRID. We would also like to acknowledge S.K. Zaman of Technical Assistance Incorporated in Dhaka, and Hare Ram Bhattarai, Maggie Partilla, Jennifer Rodine, Rebecca Marshall, and Carmen Urdaneta of Management Sciences for Health. This article is dedicated to the memory of Carmen Urdaneta, who died in an airplane accident in Afghanistan in February 2005, in appreciation for her work with India-LIP.